

REMARKS

Reexamination and reconsideration of the present application is respectfully requested.

The Examiner has rejected claims 1-10 under 35 U.S.C. 103(a) as being obvious in view of the combination of Koo and Cheung. This rejection is respectfully traversed.

Independent claims 1 and 8 as amended includes variably setting of a cycle period (for example, T_a , T_c in FIG. 2, and a_1+b_1 , a_2+b_2 ... in FIG. 4; see also page 10, lines 12-20) so that various types of data can be transmitted as pulse width modulated signals (such as cycle signals #1 to #5 shown in FIG. 4). This is advantageous in, for example, a vehicle electronic key entry system, as various types of data must be transmitted to the electronic key for checking the authority of the key.

Koo discloses a pulse width modulated signal communication between a transmitter/receiver 1 and a transponder 3, but does not teach or suggest executing an interrupt process as in the present invention. Further, Koo fails to teach or suggest variably setting each cycle period as now recited in amended claim 1 and in claim 8.

Cheung discloses a PWM circuit 10 that generates a PWM signal output to an external unit and an interrupt to a CPU. Although Cheung describes variably changing a duty ratio (ON-OFF ratio) of each PWM pulse signal (see pulses 20A-23D in FIG. 2), it fails to teach or suggest variably setting each cycle period as now claimed in amended claim 1 and in claim 8.

Specifically, each pulse in a pulse group has a width that is equal to the widths of other pulses in the group. The widths of pulses in one group vary relative to the widths of pulses in other pulse groups, and relative to the sample data value represented by the particular pulse group. However, as is evident in the PWM pulse groups shown in FIG. 2, the respective cycle periods of the pulse groups are identical in duration and therefore are not variably set. In fact, as discussed at col. 3,

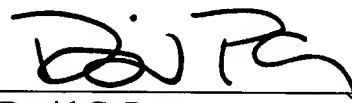
lines 1-8, the output pulse train is formed at a reconstruction frequency that is equal to four times the original sampling frequency of the data samples.

As the combination of Koo and Cheung fails to teach or suggest variably setting each cycle period as recited in claims 1 and 8, the combination fails to render the present invention obvious as asserted by the Examiner. Applicants therefore request that the Examiner's rejection of claim 1, as well as claims 2-7 that depend therefrom, and claim 8, as well as claims 9-10 that depend therefrom, be withdrawn.

The Examiner should note that new claims 11-14 have been added. Support for these claims can be found throughout the specification and drawings. For example, support for claim 11 can be found at, for example, page 4, lines 19-27, and support for claim 14 can be found at, for example, page 8, lines 2-6.

In view of the above amendments and remarks, the present application is believed to be in condition for allowance. A prompt notice to that effect is respectfully requested. Although no additional fees are believed to be due, permission is hereby given to charge any unforeseen fees to deposit account 50-1147.

Respectfully submitted,



David G. Posz
Reg. No. 37,701
Customer No. 23400

DGP
Posz & Bethards, PLC
11250 Roger Bacon Drive
Suite 10
Reston, VA 20190
(703) 707-9110